

INSTALLATION AND OPERATION INSTRUCTION

FlowCon composite cartridges 20 and 40mm, 3/4" and 1 1/2"

FlowCon E-JUST cartridges 20, 40 and 50mm, 3/4", 1 1/2" and 2"

The **composite cartridge** and the **E-JUST cartridge** can be used with the following FlowCon valves; FlowCon A, FlowCon AB (DN40/50 only E-JUST), FlowCon ABV, FlowCon EVC and FlowCon ABM. Installation and operation instruction for the specific valve follow the valve body.

Setting the flow rate

Prior to installing the flow control cartridge - either composite cartridge or E-JUST cartridge - the system should be properly flushed. A blank valve cover is available to be installed during flushing. Blank covers do not contain a cartridge and can be identified by the absence of a letter stamp. The letters Y, G, X, C or D identify covers with a composite cartridge.

The numeric adjustment setting and the color of the orifice cup identify the specific flow rate through the composite cartridge. The letter stamped on the cover identifies the dP-range (tables found on page 2-4). Example: a cover stamped with the letter 'G', containing a red composite cartridge set at position 5, indicates a flow rate of 0.137 l/sec in a differential pressure range of 40-400 kPa.

For the E-JUST cartridge the numeric adjustment setting, the color of the orifice cup, spindle o-ring and the topcover identify the specific flow rate through this type of cartridge (flow rate tables found on pages 5-8). The color of the pawl identifies the dP-range. Example: a black 20mm E-JUST cartridge with a white pawl, set at position 1.8 indicates a flow rate of 0.0451 l/sec in the differential pressure range of 17-210kPaD.

The desired flow rate can be chosen by adjusting the flow control cartridge with an allen wrench (composite cartridge) or a special adjustment key (E-JUST).

On the composite cartridge the wrench is used to adjust the orifice cup to the required number for the given flow rate. The opening on the "number plate" should point directly at the desired number, i.e. figure

1a. On the E-JUST cartridge the adjustment key is used to adjust the scale on the cartridge 'handle'; the black scale reflecting full turns numbered 1 through 5 and the red at the top reflecting tenths of full turns numbered 1 through 9, i.e. figure 1b.

Figure 1a

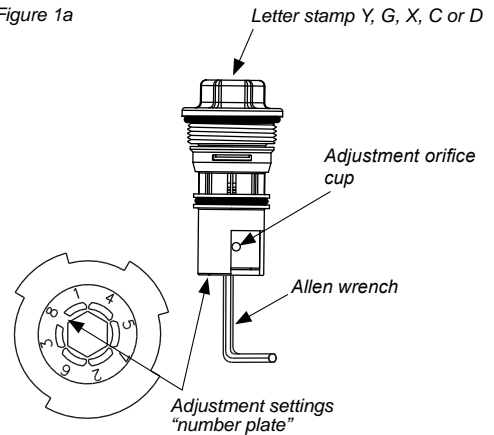
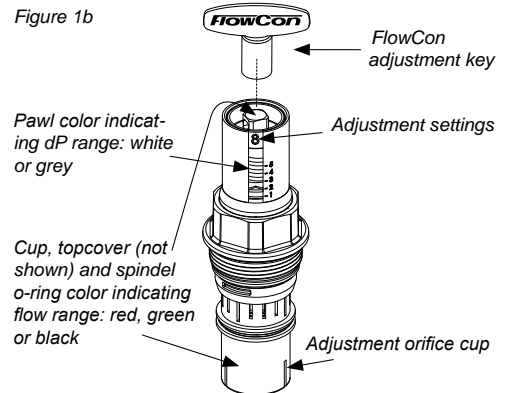


Figure 1b



Once the correct flow rate has been selected, the valve label can be marked. Tick the corresponding color and setting and fill in the flow rate. The label can be attached directly to the valve or to a hanging tag outside the insulation.

It is recommended that o-rings located around the flow cartridge are lubricated with silicone grease before the cartridge is installed into the valve body. **IMPORTANT:** Never use mineral oil or petrol based grease or oil on the o-rings.

General.

It is recommended flushing the system before installing the cartridge in the valve body. Suitable flushing caps are available. Water must always be suitable treated, clean and free of debris. It is recommended that a strainer be installed prior to the valve body to prevent damage or blockage due to debris. Further, it is recommended not to exceed maximum differential pressure control range of the cartridge.

Warranty obligation.

Failure to abide by all recommendations as per this installation and operation instruction will void warranty.

**Composite cartridges 20mm,
for valves DN15/20/25**

20mm · 3/4" · composite cartridge · Y-type								
Pressure range, ΔP: 20-130 kPaD (15-130 kPaD)* · 2.9-18.9 psid (2.2-18.9 psid)*								
	Model no.			ABV1.Y.Y	ABV1.Y.R	ABV1.Y.U	ABV1.Y.B	ABV1.Y.G
	l/sec	l/hr	GPM	Grey*	Red	Blue	Black	Green
Nominal flow rate	0.0081	29.2	0.128	1				
	0.0133	47.9	0.211	2				
	0.0175	63.0	0.277	3				
	0.0222	79.9	0.352	4				
	0.0311	112	0.493	5				
	0.0353	127	0.560	6				
	0.0383	138	0.607	7				
	0.0431	155	0.683	8				
	0.0450	162	0.713				3	
	0.0575	207	0.911		4			
	0.0619	223	0.981			4		
	0.0669	241	1.06				4	
	0.0922	332	1.46		5			
	0.0978	352	1.55					1
	0.105	378	1.66		6			
	0.114	409	1.80		7			
	0.115	415	1.83			5		
	0.118	426	1.88					2
	0.119	430	1.89		8			
	0.136	489	2.15					3
	0.137	492	2.17			6		
	0.138	498	2.19					4
	0.146	524	2.31			7		
	0.146	526	2.32			8		
	0.155	557	2.45				5	
	0.176	635	2.80				6	
	0.180	647	2.85				7	
	0.193	695	3.06				8	
	0.231	830	3.66					5
	0.237	854	3.76					6
0.253	909	4.00					7	
0.273	984	4.33					8	

Accuracy: Greatest of either ±10% of controlled flow rate or 20 l/hr (0.0056 l/sec or 0.088 GPM).

**Composite cartridges 20mm,
for valves DN15/20/25**

20mm · 3/4" · composite cartridge · G-type								
Pressure range, ΔP: 40-400 kPaD (30-400 kPaD)* · 5.8-58 psid (4.4-58 psid)*								
	Model no. ABV1.G.Y ABV1.G.R ABV1.G.U ABV1.G.B ABV1.G.G							
	l/sec	l/hr	GPM	Grey*	Red	Blue	Black	Green
Nominal flow rate	0.0117	42.1	0.185	1				
	0.0189	68.0	0.300	2				
	0.0247	88.9	0.392	3				
	0.0325	117	0.515	4				
	0.0472	170	0.748	5				
	0.0528	190	0.837	6				
	0.0564	203	0.894			3		
	0.0597	215	0.946				3	
	0.0639	230	1.01	7				
	0.0694	250	1.10	8				
	0.0781	281	1.24		4			
	0.0908	327	1.44			4		
	0.0958	345	1.52				4	
	0.137	493	2.17		5			
	0.147	529	2.33					1
	0.161	581	2.56		6			
	0.173	624	2.75		7			
	0.181	652	2.87			5		
	0.181	653	2.88		8			
	0.186	670	2.95					2
	0.210	755	3.32					3
	0.216	779	3.43			6		
	0.218	785	3.46			7		
	0.220	792	3.49			8		
	0.237	853	3.75				5	
	0.241	869	3.83					4
	0.266	957	4.21				6	
	0.269	968	4.26				7	
	0.277	998	4.39				8	
	0.365	1320	5.79					5
	0.369	1330	5.85					6
	0.392	1410	6.21					7
0.408	1470	6.46					8	

Accuracy: Greatest of either ±10% of controlled flow rate or 20 l/hr (0.0056 l/sec or 0.088 GPM).



**Composite cartridges 40mm,
 For valves DN25/32/40**

40mm · 1 1/2" · composite cartridge · X-type					
Pressure range, ΔP: 15-130 kPaD · 2.2-18.9 psid					
	Model no.			ABV2.X.W	ABV2.X.R
	I/sec	I/hr	GPM	White	Red
	Nominal flow rate	0.17	612	2.69	1
0.23		828	3.64	2	
0.26		936	4.12		1
0.33		1190	5.23	3	
0.38		1370	6.02	4	
0.39		1400	6.18		2
0.48		1730	7.61	5	3
0.54		1940	8.56	6	
0.62		2230	9.83	7	
0.63		2270	9.99		4
0.66		2380	10.5	8	
0.67		2410	10.6		5
0.76		2740	12.0		6
0.85		3060	13.5		7

Accuracy: Greatest of either ±10% of controlled flow rate or 20 l/hr (0.0056 l/sec or 0.088 GPM).

40mm · 1 1/2" · composite cartridge · D-type					
Pressure range, ΔP: 30-410 kPaD · 4.4-59.5 psid					
	Model no.			ABV2.D.W	ABV2.D.R
	I/sec	I/hr	GPM	White	Red
	Nominal flow rate	0.27	972	4.28	1
0.36		1300	5.71	2	
0.44		1580	6.97		1
0.52		1870	8.24	3	
0.58		2090	9.19	4	
0.60		2160	9.51		2
0.74		2660	11.7	5	
0.76		2740	12.0		3
0.83		2990	13.2	6	
0.93		3350	14.7	7	
0.99		3560	15.7	8	4
1.07		3850	17.0		5
1.28		4610	20.3		6
1.39		5000	22.0		7
1.43		5150	22.7		8

Accuracy: Greatest of either ±10% of controlled flow rate or 20 l/hr (0.0056 l/sec or 0.088 GPM).

40mm · 1 1/2" · composite cartridge · C-type					
Pressure range, ΔP: 22-300 kPaD · 3.2-43.5 psid					
	Model no.			ABV2.C.W	ABV2.C.R
	I/sec	I/hr	GPM	White	Red
	Nominal flow rate	0.23	828	3.65	1
0.31		1120	4.91	2	
0.38		1370	6.02		1
0.42		1510	6.66	3	
0.47		1690	7.45	4	
0.50		1800	7.93		2
0.60		2160	9.51	5	
0.64		2300	10.1		3
0.68		2450	10.8	6	
0.78		2810	12.4	7	
0.83		2990	13.2		4
0.84		3020	13.3	8	
0.90		3240	14.3		5
1.07		3850	17.0		6
1.17		4210	18.5		7
1.21	4360	19.2		8	

Accuracy: Greatest of either ±10% of controlled flow rate or 20 l/hr (0.0056 l/sec or 0.088 GPM).



E-JUST cartridges 20mm, for valves DN15/20/25

20mm · 3/4" · E-JUST · Y-type · White pawl					
Pressure range, ΔP: 17-210 kPaD · 2.5-30 psid					
	Model no.		E-JUST1.Y.B	E-JUST1.Y.G	
	l/sec	l/hr	GPM	Black	Green
				Setting	Setting
Nominal flow rate	0.0278	100	0.440	1.0	
	0.0299	108	0.475	1.1	
	0.0321	116	0.509	1.2	
	0.0343	123	0.543	1.3	
	0.0364	131	0.578	1.4	
	0.0386	139	0.612	1.5	
	0.0408	147	0.646	1.6	
	0.0429	155	0.681	1.7	
	0.0436	157	0.691		1.0
	0.0451	162	0.715	1.8	
	0.0468	168	0.741		1.1
	0.0473	170	0.749	1.9	
	0.0494	178	0.784	2.0	
	0.0499	180	0.791		1.2
	0.0516	186	0.818	2.1	
	0.0530	191	0.841		1.3
	0.0538	194	0.852	2.2	
	0.0559	201	0.887	2.3	
	0.0562	202	0.890		1.4
	0.0581	209	0.921	2.4	
	0.0593	214	0.940		1.5
	0.0603	217	0.955	2.5	
	0.0624	225	0.990	2.6	1.6
	0.0646	233	1.02	2.7	
	0.0656	236	1.04		1.7
	0.0668	240	1.06	2.8	
	0.0687	247	1.09		1.8
	0.0689	248	1.09	2.9	
	0.0711	256	1.13	3.0	
	0.0719	259	1.14		1.9
	0.0733	264	1.16	3.1	
	0.0750	270	1.19		2.0
	0.0754	272	1.20	3.2	
	0.0776	279	1.23	3.3	
	0.0781	281	1.24		2.1
0.0798	287	1.26	3.4		
0.0813	293	1.29		2.2	
0.0819	295	1.30	3.5		
0.0841	303	1.33	3.6		
0.0844	304	1.34		2.3	
0.0863	311	1.37	3.7		
0.0876	315	1.39		2.4	
0.0884	318	1.40	3.8		
0.0906	326	1.44	3.9		
0.0907	327	1.44		2.5	
0.0928	334	1.47	4.0		
0.0938	338	1.49		2.6	
0.0949	342	1.50	4.1		
0.0970	349	1.54		2.7	
0.0971	350	1.54	4.2		

Continue next column...

20mm · 3/4" · E-JUST · Y-type · White pawl					
Pressure range, ΔP: 17-210 kPaD · 2.5-30 psid					
	Model no.		E-JUST1.Y.B	E-JUST1.Y.G	
	l/sec	l/hr	GPM	Black	Green
				Setting	Setting
Nominal flow rate	0.0993	357	1.57	4.3	
	0.100	360	1.59		2.8
	0.101	365	1.61	4.4	
	0.103	372	1.64		2.9
	0.104	373	1.64	4.5	
	0.106	381	1.68	4.6	
	0.106	383	1.69		3.0
	0.108	389	1.71	4.7	
	0.110	394	1.74		3.1
	0.110	396	1.75	4.8	
	0.112	404	1.78	4.9	
	0.113	406	1.79		3.2
	0.114	412	1.81	5.0	
	0.116	417	1.84		3.3
	0.119	428	1.89		3.4
	0.122	440	1.94		3.5
	0.125	451	1.98		3.6
	0.128	462	2.03		3.7
	0.132	473	2.08		3.8
	0.135	485	2.13		3.9
	0.138	496	2.18		4.0
	0.141	507	2.23		4.1
	0.144	519	2.28		4.2
	0.147	530	2.33		4.3
	0.150	541	2.38		4.4
	0.153	553	2.43		4.5
	0.157	564	2.48		4.6
	0.160	575	2.53		4.7
0.163	586	2.58		4.8	
0.166	598	2.63		4.9	
0.169	609	2.68		5.0	

Accuracy: Greatest of either ±5% of controlled flow rate or ±2% of maximum flow rate.



**E-JUST cartridges 20mm,
for valves DN15/20/25**

20mm · 3/4" · E-JUST · Y-type · White pawl				
Pressure range. ΔP: 17-200 kPaD · 2.5-29 psid				
Nominal flow rate	Model no.			E-JUST1.Y.R
	l/sec	l/hr	GPM	Red
				Setting
	0.0767	276	1.22	1.0
	0.0813	293	1.29	1.1
	0.0860	310	1.36	1.2
	0.0907	326	1.44	1.3
	0.0953	343	1.51	1.4
	0.100	360	1.58	1.5
	0.105	377	1.66	1.6
	0.109	393	1.73	1.7
	0.114	410	1.80	1.8
	0.118	426	1.88	1.9
	0.123	443	1.95	2.0
	0.128	459	2.02	2.1
	0.132	475	2.09	2.2
	0.136	491	2.16	2.3
	0.141	507	2.23	2.4
	0.145	523	2.30	2.5
	0.150	539	2.37	2.6
	0.154	554	2.44	2.7
	0.158	569	2.51	2.8
	0.162	584	2.57	2.9
	0.166	599	2.64	3.0
	0.170	614	2.70	3.1
	0.174	628	2.76	3.2
	0.178	642	2.83	3.3
	0.182	655	2.89	3.4
	0.186	669	2.94	3.5
	0.189	682	3.00	3.6
	0.193	695	3.06	3.7
	0.196	707	3.11	3.8
	0.200	719	3.17	3.9
	0.203	731	3.22	4.0
	0.206	742	3.27	4.1
	0.209	753	3.32	4.2
	0.212	764	3.36	4.3
	0.215	774	3.41	4.4
	0.218	784	3.45	4.5
	0.220	793	3.49	4.6
	0.223	802	3.53	4.7
	0.225	810	3.57	4.8
	0.227	818	3.60	4.9
	0.229	825	3.60	5.0

Accuracy: Greatest of either
±5% of controlled flow rate or
±2% of maximum flow rate.

20mm · 3/4" · E-JUST · G-type · Grey pawl				
Pressure range. ΔP: 30-400 kPaD · 4.4-58 psid				
Nominal flow rate	Model no.			E-JUST1.G.R
	l/sec	l/hr	GPM	Red
				Setting
	0.113	406	1.79	1.0
	0.119	427	1.88	1.1
	0.125	449	1.98	1.2
	0.131	470	2.07	1.3
	0.137	492	2.17	1.4
	0.143	513	2.26	1.5
	0.149	535	2.36	1.6
	0.155	556	2.45	1.7
	0.161	578	2.54	1.8
	0.167	599	2.64	1.9
	0.172	621	2.73	2.0
	0.178	642	2.83	2.1
	0.184	664	2.92	2.2
	0.190	685	3.02	2.3
	0.196	707	3.11	2.4
	0.202	728	3.21	2.5
	0.208	750	3.30	2.6
	0.214	771	3.40	2.7
	0.220	793	3.49	2.8
	0.226	814	3.59	2.9
	0.232	836	3.68	3.0
	0.238	857	3.78	3.1
	0.244	879	3.87	3.2
	0.250	900	3.96	3.3
	0.256	922	4.06	3.4
	0.262	943	4.15	3.5
	0.268	965	4.25	3.6
	0.274	987	4.34	3.7
	0.280	1010	4.44	3.8
	0.286	1030	4.53	3.9
	0.292	1050	4.63	4.0
	0.298	1070	4.72	4.1
	0.304	1090	4.82	4.2
	0.310	1120	4.91	4.3
	0.316	1140	5.01	4.4
	0.322	1160	5.10	4.5
	0.328	1180	5.20	4.6
	0.334	1200	5.29	4.7
	0.340	1220	5.38	4.8
	0.346	1240	5.48	4.9
	0.352	1270	5.57	5.0

Accuracy: Greatest of either
±5% of controlled flow rate or
±2% of maximum flow rate.



**E-JUST cartridges 20mm,
for valves DN15/20/25**

20mm · 3/4" · E-JUST · G-type · Grey pawl					
Pressure range, ΔP: 35-400 kPaD · 5.1-58 psid					
	Model no.		E-JUST1.G.B	E-JUST1.G.G	
	l/sec	l/hr	GPM	Black	Green
				Setting	Setting
	0.0383	138	0.607	1.0	
	0.0416	150	0.660	1.1	
	0.0449	162	0.712	1.2	
	0.0483	174	0.765	1.3	
	0.0516	186	0.817	1.4	
	0.0549	198	0.870	1.5	
	0.0582	210	0.922	1.6	
	0.0615	221	0.975	1.7	
	0.0648	233	1.03	1.8	
	0.0660	238	1.05		1.0
	0.0681	245	1.08	1.9	
	0.0706	254	1.12		1.1
	0.0714	257	1.13	2.0	
	0.0748	269	1.18	2.1	
	0.0751	271	1.19		1.2
	0.0781	281	1.24	2.2	
	0.0797	287	1.26		1.3
	0.0814	293	1.29	2.3	
	0.0843	304	1.34		1.4
	0.0847	305	1.34	2.4	
	0.0880	317	1.40	2.5	
	0.0889	320	1.41		1.5
	0.0913	329	1.45	2.6	
	0.0934	336	1.48		1.6
	0.0946	341	1.50	2.7	
	0.0979	353	1.55	2.8	
	0.0980	353	1.55		1.7
	0.101	365	1.61	2.9	
	0.103	369	1.63		1.8
	0.105	377	1.66	3.0	
	0.107	386	1.70		1.9
	0.108	388	1.71	3.1	
	0.111	400	1.76	3.2	
	0.112	402	1.77		2.0
	0.115	412	1.82	3.3	
	0.116	419	1.84		2.1
	0.118	424	1.87	3.4	
	0.121	435	1.92		2.2
	0.121	436	1.92	3.5	
	0.124	448	1.97	3.6	
	0.125	452	1.99		2.3
	0.128	460	2.03	3.7	
	0.130	468	2.06		2.4
	0.131	472	2.08	3.8	
	0.134	484	2.13	3.9	
	0.135	485	2.13		2.5
	0.138	496	2.18	4.0	
	0.139	501	2.21		2.6
	0.141	508	2.24	4.1	
	0.144	517	2.28		2.7
	0.144	520	2.29	4.2	

20mm · 3/4" · E-JUST · G-type · Grey pawl					
Pressure range, ΔP: 35-400 kPaD · 5.1-58 psid					
	Model no.		E-JUST1.G.B	E-JUST1.G.G	
	l/sec	l/hr	GPM	Black	Green
				Setting	Setting
Nominal flow rate	0.148	532	2.34	4.3	
	0.148	534	2.35		2.8
	0.151	544	2.39	4.4	
	0.153	550	2.42		2.9
	0.154	556	2.45	4.5	
	0.157	567	2.50		3.0
	0.158	567	2.50	4.6	
	0.161	579	2.55	4.7	
	0.162	583	2.57		3.1
	0.164	591	2.60	4.8	
	0.167	600	2.64		3.2
	0.168	603	2.66	4.9	
	0.171	615	2.71	5.0	
	0.171	616	2.71		3.3
	0.176	633	2.79		3.4
	0.180	649	2.86		3.5
	0.185	666	2.93		3.6
	0.189	682	3.00		3.7
	0.194	699	3.08		3.8
	0.199	715	3.15		3.9
	0.203	731	3.22		4.0
	0.208	748	3.29		4.1
	0.212	764	3.37		4.2
	0.217	781	3.44		4.3
	0.221	797	3.51		4.4
	0.226	814	3.58		4.5
	0.231	830	3.66		4.6
	0.235	847	3.73		4.7
	0.240	863	3.80		4.8
	0.244	880	3.87		4.9
0.249	896	3.95		5.0	

Accuracy: Greatest of either
±5% of controlled flow rate or
±2% of maximum flow rate.



Continue next column...

**E-JUST cartridge 40mm,
for valves DN25/32/40**

40mm · 1 1/2" · E-JUST · Y-type · White pawl				
Pressure range. ΔP: 17-400 kPaD · 2.5-58 psid				
Nominal flow rate	Model no.		E-JUST2.Y.G	
	l/sec	l/hr	GPM	Setting
	0.149	535	2.36	1.0
	0.220	793	3.49	1.1
	0.289	1040	4.58	1.2
	0.355	1280	5.63	1.3
	0.418	1510	6.63	1.4
	0.479	1730	7.60	1.5
	0.538	1940	8.52	1.6
	0.594	2140	9.41	1.7
	0.647	2330	10.3	1.8
	0.699	2520	11.1	1.9
	0.748	2690	11.9	2.0
	0.795	2860	12.6	2.1
	0.841	3030	13.3	2.2
	0.884	3180	14.0	2.3
	0.925	3330	14.7	2.4
	0.965	3470	15.3	2.5
	1.00	3610	15.9	2.6
	1.04	3740	16.5	2.7
	1.07	3870	17.0	2.8
	1.11	3990	17.6	2.9
	1.14	4100	18.1	3.0
	1.17	4220	18.6	3.1
	1.20	4320	19.0	3.2
	1.23	4420	19.5	3.3
	1.26	4520	19.9	3.4
	1.28	4620	20.3	3.5
	1.31	4710	20.7	3.6
	1.33	4800	21.1	3.7
	1.36	4890	21.5	3.8
	1.38	4970	21.9	3.9
	1.40	5050	22.3	4.0
	1.43	5130	22.6	4.1
	1.45	5210	23.0	4.2
	1.47	5290	23.3	4.3
	1.49	5370	23.6	4.4
	1.51	5440	24.0	4.5
	1.53	5520	24.3	4.6
	1.55	5600	24.6	4.7
	1.58	5670	25.0	4.8
	1.60	5750	25.3	4.9
	1.62	5830	25.7	5.0

Accuracy: Greatest of either
±5% of controlled flow rate or
±2% of maximum flow rate.

**E-JUST cartridge 50mm,
for valves DN40/50**

50mm · 2" · E-JUST · G-type · Grey pawl				
Pressure range. ΔP: 20-400 kPaD · 2.9-58 psid				
Nominal flow rate	Model no.		E-JUST3.G.B	
	l/sec	l/hr	GPM	Setting
	0.883	3180	14.0	1.0
	1.14	4100	18.0	1.1
	1.37	4940	21.7	1.2
	1.59	5710	25.1	1.3
	1.78	6420	28.3	1.4
	1.96	7070	31.1	1.5
	2.13	7660	33.7	1.6
	2.28	8200	36.1	1.7
	2.42	8700	38.3	1.8
	2.54	9150	40.3	1.9
	2.66	9570	42.1	2.0
	2.77	9960	43.8	2.1
	2.86	10300	45.4	2.2
	2.95	10600	46.8	2.3
	3.04	10900	48.2	2.4
	3.12	11200	49.4	2.5
	3.19	11500	50.6	2.6
	3.26	11700	51.7	2.7
	3.32	12000	52.7	2.8
	3.39	12200	53.7	2.9
	3.45	12400	54.6	3.0
	3.51	12600	55.6	3.1
	3.56	12800	56.5	3.2
	3.62	13000	57.3	3.3
	3.67	13200	58.2	3.4
	3.73	13400	59.1	3.5
	3.78	13600	59.9	3.6
	3.83	13800	60.8	3.7
	3.89	14000	61.6	3.8
	3.94	14200	62.4	3.9
	3.99	14400	63.3	4.0
	4.05	14600	64.1	4.1
	4.10	14800	65.0	4.2
	4.15	14900	65.8	4.3
	4.20	15100	66.6	4.4
	4.25	15300	67.4	4.5
	4.30	15500	68.2	4.6
	4.35	15700	68.9	4.7
	4.39	15800	69.6	4.8
	4.44	16000	70.3	4.9
	4.48	16100	70.9	5.0

Accuracy: Greatest of either
±5% of controlled flow rate or
±2% of maximum flow rate.

